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IN THE UNITED STATES PATENT AND TRADE MARK OFFICE

VERIFICATION OF TRANSLATION

I, Michael Wallace Richard Turner, Bachelor of Arts, Chartered Patent Attorney, European Patent Attorney, of 1 Horsefair Mews, Romsey, Hampshire SO51 8JG, England, do hereby declare that I am conversant with the English and German languages and that I am a competent translator thereof;

I verify that the attached English translation is a true and correct translation made by me of the attached Amended Pages in the German language of International Application PCT/DE03/03906;

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: May 4, 2005

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The invention concerns an apparatus as set forth in the classifying portion of claim 1 for the production of transversely ribbed tubes.

5 DE 197 02 645 C1 discloses for example an apparatus for the production of transversely ribbed tubes, which along the common guide section for guiding the mold jaw halves has a linear guide device which is formed by an elongate central sliding body, preferably comprising a sliding metal alloy, and two oil-lubricated guide bodies which are disposed laterally
10 beside the sliding body and which preferably comprise an abrasion wear-resistant metal.

US-A-6457965 discloses an apparatus for the production of transversely ribbed tubes, comprising mold jaw halves which are circulatingly moved along two endless guide paths by means of a respective
15 associated drive device. The mold jaw halves of the respective guide path are connected together by means of an endless chain. The two guide paths have a common mold section, a respective return section and two respective direction-changing sections. The mold jaw halves do not bear against each other at the direction-changing sections. That known
20 apparatus has a machine bed with a base plate of steel and with a support plate mounted thereon and comprising a sliding bearing metal, for example bronze.

Apparatuses of the general kind set forth as are known for example from the above-quoted publications with wearing members of metal suffer
25 from the disadvantage that the wearing members are relatively cost-intensive. A further disadvantage is that replacement of the wearing members, as is often unavoidable after a long period of operation of the apparatus, is very time-consuming and consequently also cost-intensive. Often it is not possible at all for the user of such a known apparatus to
30 perform the necessary replacement operation, which means that either the apparatus has to be sent back to the manufacturer thereof or that a fitter from the manufacturer of the apparatus has to be despatched to the user of

the apparatus. That all involves a considerable amount of complication and expenditure.

5 In consideration of those factors the object of the invention is to provide an apparatus of the kind set forth in the opening part of this specification, wherein the wearing members are comparatively inexpensive and replacement of the wearing members is possible quickly and in a time-saving fashion – including by the user of the apparatus on site – within a very short time.

10 In accordance with the invention in an apparatus of the kind set forth in the opening part of this specification that object is attained by the features of the characterising portion of claim 1.

15 The elongate wearing elements comprising the low-wear plastic material are provided on the base arrangement of the apparatus according to the invention in such a way that if necessary, that is to say after a long period of operation of the apparatus and corresponding deterioration, that is to say corresponding wear of the wearing members, the wearing elements can be exchanged in a time-saving and simple fashion and replaced by unused new plastic wearing members.

20 In order to ensure at any time during operation of the apparatus according to the invention that the wearing members reliably bear against the circulating mold jaw halves which bear against each other along the endless guide paths, the elongate wearing elements of low-wear plastic material are preferably resiliently provided on the base arrangement.

25 The elongate wearing elements preferably comprise a low-wear plastic material. It has proven to be particularly advantageous if a plastic material with oil inclusions is used for the wearing elements, because that minimises the friction between the wearing elements and the mold jaw halves and consequently the productivity of the apparatus is correspondingly increased.

30 (Continued on page 2 line 26 of the translation of the original PCT text)

CLAIMS

1. Apparatus for the production of transversely ribbed tubes, comprising mold jaw halves (16) which are circulatingly moved in a condition of bearing against each other along two endless guide paths (14) by means of a respective associated drive device, wherein the two guide paths (14) have a common mold section (18), a respective return section (20) and two respective direction-changing sections (22, 24), wherein the respective direction-changing section (22, 24) has a direction-changing member (26, 28) provided with an arcuate guide edge, wherein the guide paths (14) have elongate wearing elements (30) which are exchangeably provided on a base arrangement (12) of the apparatus (10),

characterised in that

the guide paths (14) along the common mold section (18) and along the return sections (20) have elongate wearing elements (30) comprising a low-wear plastic material.

2. Apparatus as set forth in claim 1 characterised in that the elongate wearing elements (30) are resiliently provided on the base arrangement (12).

3. Apparatus as set forth in claim 1 characterised in that the plastic material has oil inclusions.

4. Apparatus as set forth in one of claims 1 through 3 characterised in that the elongate wearing elements (30) are provided with two longitudinal slots (34, 36) which are provided in laterally mutually spaced parallel relationship and which are provided in coincident relationship with a coolant feed (42) and a coolant discharge (44) for the mold jaw halves (16).

5. Apparatus as set forth in claim 1 characterised in that the direction-changing members (26, 28) provided between the common mold

section (18) and the two return sections (20) comprise a low-wear plastic material.

6. Apparatus as set forth in claim 5 characterised in that the plastic material has oil inclusions.

7. Apparatus as set forth in claim 5 or claim 6 characterised in that the direction-changing members (26, 28) are respectively connected to a compensation device (50) which compensates for a temperature- and/or speed-dependent tolerance play of the mold jaw halves (16) circulating along the respectively associated guide path (14).